



SAFETY DATA SHEET

PRODUCT NAME: P-105 Methyl Methacrylate Inhibited
MSDS ISSUE DATE: 10/16/98
SDS REVISION DATE: 1/22/14

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 PRODUCT NAME: P-105 Methyl Methacrylate Inhibited
Synonyms: N/A
Chemical Name: Mixture

1.2 PRODUCT USE: Acrylic/Solid Surface Manufacturing

1.3 MANUFACTURER:

Aristech Surfaces LLC
7350 Empire Dr.
Florence, KY 41042

1.4 CONTACT INFORMATION

Email: info@aristechsurfaces.com

Emergency Phone: (859)- 283-1501 (8AM- 5PM Mon-Fri)
CHEMTREC-(800)- 424-9300 (Off-Hour Emergencies); CCN 1676
Fax: (859)-283-7378



SECTION 2: HAZARDS IDENTIFICATION

2.1 CLASSIFICATION OF SUBSTANCE:

PRODUCT Classification Information: Not Classified

INGREDIENT Classification Information:

Preliminary Statement:

These classifications/hazards are pertaining to the constituents of the marketed product.

Classification according to Regulation (EC) No 1272/2008[CLP]:

Flammable Liquid - Category 2

Skin Irritation - Category 2

Skin Sensitization - Category 1

Specific Target Organ Toxicity (Single Exposure) - Category 3

2.2 LABEL ELEMENTS:

DANGER!!!



FLAMMABLE - IRRITANT

Signal Word: DANGER!

Relevant Routes of Exposure: Inhalation, eye and skin.

CLP/GHS Statements:

- **Hazard Statement(s):**

- H225 Highly flammable liquid and vapor
- H315 Causes skin irritation
- H317 May cause an allergic skin reaction
- H335 May cause respiratory irritation

- **Precautionary statement(s):**

Prevention:

- P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
- P233 Keep container tightly closed.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ventilating/lighting/ equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
- P264 Wash skin thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P280 Wear protective gloves/protective clothing/eye protection/face protection

Response:

- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.
- P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P312 Call a POISON CENTER or doctor/physician if you feel unwell.
- P333 + P313 IF SKIN irritation or rash occurs: Get medical advice/attention.
- P362 Take off contaminated clothing and wash before reuse.
- P370 + P378 In case of fire: Use foam, carbon dioxide, or dry chemicals for extinction.

Storage:


- P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
- P405 + P235 Store locked up. Keep cool.

Disposal:

- P501 Dispose of in accordance with local, state and federal requirements. Methyl methacrylate (MMA) is specifically listed as a RCRA U162 hazardous waste and mixtures may meet the criteria of ignitability D001.

SECTION 3: COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 COMPOSITION:

<u>Ingredient Name</u>	<u>CAS #</u>	<u>EC #</u>	<u>% WT</u>	<u>DSD Classification</u>	<u>CLP/GHS Classification</u>
*P-105 Methyl Methacrylate Inhibited	N/A	N/A	100	Not Classified	Not Classified
BYK P-105	Trade Secret	N/A	75	Not Classified	Not Classified
Methyl methacrylate	80-62-6	201-297-1	25	F; Xi R11; R37/38 S02; S24 S37; S46	Flam. Liq. 2 H225 Skin Irrit. 2 H315 Skin Sens. 1 H317 STOT SE 3 H335  DANGER!

* Mixture. Chemicals that follow this listed chemical are part of the listed mixture.

SECTION 4: FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES:

General notes:

Consult a physician. Show this safety data sheet to the doctor in attendance.

Relevant Routes of Exposure: Inhalation, eye and skin.

Inhalation:

Remove from exposure. If breathing is difficult, administer artificial respiration (mouth-to-mouth) or oxygen as indicated. Call a physician immediately.

Skin Contact:

Remove contaminated clothing. Wash skin thoroughly with soap and plenty of water. If irritation or sensitization occurs, call a physician.

Eye Contact:

Flush immediately with plenty of cool water for at least 15 minutes. Call a physician immediately.

Ingestion:

DO NOT INDUCE VOMITING! Rinse mouth immediately with plenty of water. If victim is conscious and alert, give 1 glass of milk or water. **NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.** Call a physician, immediately. This product, if vomited, may be aspirated into the lungs causing chemical pneumonia which may be life threatening.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA:

Use foam, carbon dioxide, or dry chemicals to extinguish fire. Water may be ineffective, but should be used to cool fire-exposed containers. Water spray can also be used to disperse vapors and to flush spills away from exposures.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANTS OR MIXTURE:

Vapors are heavier than air and may travel to a source of ignition and cause a flash back. Containers may explode upon exposure to excessive heat and fire situations

5.3 ADVICE FOR FIRE FIGHTERS:

Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing when fighting fires. Use cold water spray to cool fire-exposed containers.

5.4 FURTHER INFORMATION:

Combustion products may include carbon dioxide, carbon monoxide, methyl methacrylate monomer (MMA) and acrid smoke and fumes.

Flammable Limits in Air (% by Volume): for MMA LEL:1.7%, UEL:8.2%

Flash Point: 87.8°F (31°C) (PMCC)

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:

Proper personal protective equipment should be utilized when handling this material.

6.2 ENVIRONMENTAL PRECAUTIONS:

Dispose of in accordance with local, state and federal requirements. Methyl methacrylate (MMA) is specifically listed as a RCRA U162 hazardous waste.

6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:

Dike with sand or earth to prevent spill from entering sewers and waterways. Remove all ignition sources. Keep up wind of spill containment area. Ventilate spill area. All equipment used when handling this product must be grounded. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand, or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. Personal protective equipment should be used when cleaning up all spills. Methyl methacrylate is on the CERCLA list of hazardous substances and spills of reportable quantities must be reported to the National Response Center (800-424-8802). The CERCLA Reportable Quantity (RQ) for MMA is 1,000 lb.

6.4 REFERENCE TO OTHER SECTION(S):

See SECTION 7 for information on Safe Handling.

See SECTION 8 for information on Personal Protective Equipment.

See SECTION 13 for information on Disposal.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING:

Product is flammable. Keep away from heat, sparks and flames. Keep containers closed when not in use. Use with adequate ventilation. Bond and ground containers for transfer of this product to prevent static sparks. Avoid contact with eyes and skin. Avoid breathing mists or vapors.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:

Store away from heat, sparks and flames and all ignition sources. Store in cool, refrigerated area with a maximum storage temperature of 50°F (10°C). Store away from oxidizers and peroxides. An alarm system should be provided in storage area to indicate when temperature exceeds 50°F (10°C). To avoid product degradation, product should not be stored for extended period of time (4 weeks max.). All containers should be adequately vented to permit the escape of excess vapors. In addition, enough free board space should be allowed for expansion of contents. Outside or detached storage is preferable. No smoking in work areas. Work in well-ventilated area. Vapors are uninhibited and may form polymers in vents or arrestors resulting in stoppage of vents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS:

Exposure Limit values:

<u>Ingredient Name</u>	<u>CAS #</u>	<u>% WT</u>	<u>Limit Values</u>
*P-105 Methyl Methacrylate Inhibited	N/A	N/A	Not Classified
BYK P-105	Trade Secret	75	N (Hazardous) N/A (OSHA PEL TWA) N/A (ACGIH TLV TWA)
Methyl methacrylate	80-62-6	25	Y (Hazardous) 100 ppm (OSHA PEL TWA) 50 ppm (ACGIH TLV TWA) 100 ppm (ACGIH STEL CEILING)

** Mixture. Chemicals that follow this listed chemical are part of the listed mixture.

** All ingredients in quantities >1.0% (>0.1% for carcinogens) that are potentially hazardous per OSHA definitions. Some States enforce the PELs that OSHA promulgated in 1989, which were subsequently vacated by the U.S. Supreme Court. Check with your state OSHA agency to determine which PEL is enforced in your jurisdiction.

8.2 EXPOSURE CONTROLS:

Ventilation Requirements:

Local exhaust ventilation should be used to control the emissions of air contaminants. General dilution ventilation may assist with the reduction of air contaminant concentrations.

Eye/Face:

Wear chemical safety glasses, goggles or face shields to prevent eye contact.

Skin:

Wear polyvinyl alcohol and Teflon gloves to prevent skin contact. Protective aprons may be necessary where employees may be splashed. Contaminated clothing should be removed and laundered before reuse.

Respiratory:

Respiratory equipment approved by NIOSH/MSHA for protection against organic vapors and mists is necessary to avoid inhalation of excessive air contaminants. The appropriate respirator selection depends on the type and magnitude of exposure (refer 29 CFR 1910.134 for appropriate NIOSH approved respirators and to the NIOSH Pocket Guide to Chemical Hazards, DHHS (NIOSH) Publication NO. 2001-145 for equipment selection). Use a positive pressure air supplied respirator if there is a potential for an uncontrolled release, exposure levels are not known or under any other circumstances where air purifying respirators may not provide adequate protection.

Other Protective Clothing/Equipment:

Emergency eye wash stations and safety showers should be available in the work area.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

Appearance: Gold/amber viscous liquid

Boiling Point: >212 °F (>100 °C) MMA

Molecular/Chemical Formula: Mixture

Evaporation Rate: 3.1 MMA

Bulk Density: N/A

Freezing Point: N/A

Melting Point: <20°C

Octanol/Water Partition Coefficient:

Log Kow=1.38 (for MMA)

Water/Oil Distribution Coefficient: N/A

Odor: Sweet, acrid fruity acrylic odor

Odor Threshold:

Percent Volatile: ~25%

pH Value: N/A

Physical State: Liquid

Reactivity in Water: N/A

Solubility in Water: Insoluble

Specific Gravity or

Density (Water=1): 1.03

Vapor Density: 0.4

Vapor Pressure: 7.28 mmHg@20°C

Flammable Limits in

Air (% by Volume):

for MMA LEL:1.7%, UEL:8.2%

Flash Point: 87.8°F (31°C) (PMCC)

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY: Reactive

10.2 CHEMICAL STABILITY: Unstable, may polymerize at elevated temperatures

10.3 POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous Polymerization may occur.

10.4 CONDITIONS TO AVOID:

Avoid exposure to excessive temperatures (above 50°F (10°C)) for extended periods of time. Also contact with sparks and flames.

10.5 INCOMPATIBLE MATERIALS:

Reacts violently with polymerization catalysts such as light, ultraviolet light, heat, benzoyl peroxide, other peroxides, persulfates, nitrates, nitric acid and other strong oxidizers. Polymerization in closed containers can cause violent reactions.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS:

Carbon dioxide, carbon monoxide, acrid smoke and fumes.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS:

VALUE	ANIMAL	ROUTES	COMPONENTS
7094 ppm/4hr	Rat	Inhalation- LC50	Methyl methacrylate
7872 mg/kg	Rat	Oral - LD50	Methyl methacrylate
>35,000 mg/kg	Rabbit	Dermal - LD50	Methyl methacrylate

Product Based Information:

In one study, high doses of MMA were reported to produce an increased incidence of blood vessel aggregates in rat pups whose mothers received MMA by injection while pregnant. Degenerative changes in the liver were observed in Guinea pigs following inhalation exposure to 9.5 ppm of MMA for 3 hours/day for 15 days, according to a 1945 report. Ingestion of MMA caused irritation of the alimentary canal and kidney and liver lesions (Lefaus, R. Practical Toxicology of Plastics. CRC Press, Inc., 1968P.324). Methyl methacrylate has been shown to cause neurotoxic effects in primarily animal studies. Carcinogenicity: None of the ingredients listed in Section 2 are considered carcinogens by OSHA, NTP, or IARC.

Possible target organs: Skin and respiratory system (e.g., lungs), liver, kidneys and central nervous system

Relevant Routes of Exposure: Inhalation, eye and skin.

Signs and Symptoms of Acute Overexposure:

Inhalation of high vapor concentration may irritate the eyes and mucous membranes of the nose, throat and upper respiratory tract. Symptoms may include burning sensation, coughing, sore throat, shortness of breath and dizziness. Severe overexposures can cause confusion, headache, nausea, anorexia, irritability, narcosis, drowsiness, unconsciousness, collapse, coma and possibly death. Repeated or prolonged skin contact with liquid may cause irritation, dermatitis and allergic reactions. Symptoms may include redness, itching, dry, scaly and fissured dermatitis, rash and blisters. Eye contact may result in irritation and possible corneal damage. Symptoms may include redness, tearing, burning sensation, swelling of the eye tissue and pain. If swallowed, may cause gastrointestinal disturbances. Symptoms may include nausea, vomiting, sore throat, abdominal pain and lack of appetite. Aspiration of methylmethacrylate into the lungs may cause chemical pneumonia which may be life threatening.

Signs and Symptoms of Chronic Overexposure:

Repeated and prolonged contact with the skin can cause dermatitis and allergic skin reactions. Repeated eye contact may result in conjunctivitis. Chronic inhalation may result in neurologic and behavioral changes according to results with animal studies.

Medical Conditions Generally Aggravated By Exposure:

Individuals with chronic respiratory disorders may be adversely affected by any vapor, fume or airborne particulate matter exposure. Persons with preexisting skin disorders may be more susceptible to the effects of this material.

Carcinogenicity:

NTP: N*

IARC: N*

OSHA: N/A

ACGIH: N/A

OTHER: N/A

Additional Information:

*Methyl methacrylate is classified as a Group 3 carcinogen by the International Agency for Research on Cancer (IARC). Group 3 designates a material that is not classifiable as to human carcinogenicity. Long-term follow up of workers does not support the carcinogenicity of methyl methacrylate but chronic exposure in animals has been associated with fibrosarcomas Anon, 1994; reviewed HSDB, 1996). Butyl acrylate is classified as a Group 3 carcinogen by IARC (WHO, IARC, S7, 59 1987).

SECTION 12: ECOLOGICAL INFORMATION

12.1 ECOLOGICAL INFORMATION:

Rainbow trout (*Salmo gairdneri*), 96hr LC50:>79mg/l
Fathead Minnow, 96hr LC50: 130mg/l
Zebra Fish NOEC (35 day): 8.4 mg/l
Daphnia magna 48hr EC50: 69mg/l
Algae (*Selenastrum Capricornutum*), 96hr EC50: 170mg/l

Terrestrial:

When spilled onto soil, methyl methacrylate would be expected to both volatilize and leach into the groundwater. Some biodegradation would be expected to occur.

Aquatic:

MMA has low toxicity to fish and algae. Harmful to aquatic invertebrates. When released into water, methyl methacrylate will primarily be lost through volatilization.

Atmospheric:

Methyl methacrylate released to the atmosphere will degrade by reaction with reactive atmospheric species.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 DISPOSAL:

Dispose of in accordance with local, state and federal requirements. Methyl methacrylate is specifically listed as a RCRA U162 hazardous waste and mixtures may meet the criteria of ignitability D001.

SECTION 14: TRANSPORT INFORMATION

14.1 TRANSPORT:

Proper Shipping Name: Flammable Liquid,
NOS (contains Methyl methacrylate monomer, stabilized)

Hazard Class: 3

ID Number: UN1993

Packing Group: III

Marine Pollutant: No

SECTION 15: REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE EU REGULATION:

U.S. Federal Regulations:

Toxic Substances Control Act (TSCA) Inventory- Yes
Superfund Amendments and Reauthorization Act (SARA 313)-MMA
Clean Air Act (Section 111) Volatile Organic Compound- MMA
Clean Air Act (Section 112) Statutory Air Pollutants- MMA
Clean Water Act (Section 311) Hazardous Substances- MMA
Clean Water Act (Section 307) Priority Pollutant- MMA

State Regulations:

Pennsylvania Hazardous Substance List- MMA(E)
New Jersey Hazardous Substance List- MMA(F3,R2,1277)
Massachusetts Substance List- MMA
California Proposition 65 List.

This product does not contain any chemicals listed by the State of California to cause cancer and/or birth defects or other reproductive harm.

International Regulations:

European Inventory (EINECS)- Unknown
Canadian Inventory (DSL)- Unknown

SARA Hazards:

Acute: Yes

Chronic: Yes

Reactive: Yes

Fire: Yes

Pressure: No

SECTION 16: OTHER INFORMATION

16.1 ABBREVIATIONS AND ACRONYMS:

CLP= Classification, Labelling and Packaging

CAS= Chemical Abstract Service

DSD= Dangerous Substance Directive

N/A= Not Applicable

MSHA= Mine Safety and Health Administration

NIOSH= National Institute of Occupational Safety and Health

CEIL= Ceiling Limit Value

STEL= Short Term Exposure Limit

CNS= Central Nervous System

SARA= Superfund Amendment and Reauthorization Act

ACGIH= American Conference of Governmental Industrial Hygienists

OSHA= Occupational Safety and Health Administration

PNOC= Particulates Not Otherwise Classifiable

TLV= Threshold Limit Value

PEL= Permissible Exposure Limit

TWA= Time Weighted Average

16.2 KEY LITERATURE REFERENCE AND SOURCES FOR DATA:

Provided by company.

16.3 APPLICABLE STATEMENTS:

DSD Statements:

- **Risk(R) Statement(s):**

- R11 Highly Flammable
- R37/38 Irritating to respiratory system and skin
- R43 May cause sensitization by skin contact

- **Safety(S) Statement(s):**

- S02 Keep out of the reach of children
- S24 Avoid contact with skin
- S37 Wear suitable gloves
- S46 If swallowed, seek medical advice immediately and show this container or label

Additional Statements:

Emergency Overview:

- **WARNING! FLAMMABLE LIQUID AND VAPOR.** This product may undergo hazardous polymerization. Vapor may cause flash fire. Expected to cause eye, skin and upper respiratory tract irritation. Exposure to high concentrations of mists or vapors may cause central nervous system depression with headache, drowsiness, nausea, weakness, fatigue, and loss of appetite. May cause dermatitis and allergic skin reactions. Possible aspiration hazard.

Potential Health Effects:

- Eyes: Contact with eyes can cause irritation.
- Skin: Acute exposures to the skin may result in irritation. Repeated or prolonged contact can cause dermatitis and/or allergic reactions..
- Ingestion: If swallowed, this product is not expected to be toxic. Ingestion can result in gastrointestinal disturbances (vomiting, nausea, diarrhea, abdominal pain and lack of appetite). Possible aspiration hazard. This product, if vomited, may be aspirated into the lungs causing chemical pneumonia which may be life threatening.
- Inhalation: Inhalation may cause upper respiratory irritation.

Label Statements:

- **WARNING! FLAMMABLE LIQUID AND VAPOR.** This product may undergo hazardous polymerization. Vapor may cause flash fire. Expected to cause eye, skin and upper respiratory tract irritation. Exposure to high concentrations of mists or vapors may cause central nervous system depression with headache, drowsiness, nausea, weakness, fatigue, and loss of appetite. May cause dermatitis and allergic skin reactions. Possible aspiration hazard.
- Avoid contact with eyes, skin and clothing
- Avoid breathing vapors.
- Wash thoroughly after handling.
- Launder contaminated clothing before re-use.
- Use only with adequate ventilation.
- Wear chemical safety goggles and face shield, gloves, approved respirator for protection against organic vapors and other protective equipment while handling (consult SDS).
- Keep away from heat, sparks and flame.
- Keep container closed

16.4 TRAINING ADVICE:

Provide adequate information, instruction and training to operators.

16.5 DECLARE TO READER:

If you require additional information regarding any legal or regulatory requirements referred to in this SDS, we suggest that you consult with an appropriate regulatory agency, or with a professional with expertise in this area. This information is taken from sources or based upon data believed to be reliable; however, Aristech Surfaces LLC makes no warranty as to the absolute correctness or sufficiency of any of the foregoing or that additional or other measures may not be required under particular conditions.

16.6 ADDITIONAL INFORMATION:

NFPA Codes:

Health: 2
Flammability: 3
Reactivity: 2

HMIS Codes:

Health: 2
Flammability:3
Reactivity: 2

**Prepared according to: Appendix D of 29 CFR 1910.1200
Regulation (EC) No 1272/2008[CLP]**

SDS REVISION DATE: 1/22/14